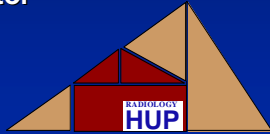


## Characterizing Adnexal Masses: Pearls and Pitfalls

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## Adnexal Masses: Pearls

- T1 Hyperintensity
- T2 Hypointensity
- Tubular Configuration
- Papillary Projections
- Mucinous Cystadenoma
- Peritoneal Implants

## Adnexal Masses: Pitfalls

- Lipid Poor Mature Cystic Teratoma
- Peritoneal Inclusion Cyst
- Tarlov Cysts

## T1 Hyperintensity: DDX

- Fat
- Hemorrhage
- Protein
- Flow
- Paramagnetic Effects

## T1 Hyperintensity: DDX

- Mature Cystic Teratoma
- Endometrioma
- Functional Cyst

## High Signal on T1 Loss of SI with Fat Saturation

- Tissue is Characterized as Fat
- Dx: Mature Cystic Teratoma

### ↑ T1 SI with / without Fat Saturation

- Hemorrhage or Protein
- Multiple or Bilateral:
  - Specific for Endometriomas
- Single Lesion
  - ↓ T2 SI → Endometrioma
  - ↑ T2 SI → Functional Cyst

### T2 Hypointensity: DDX

- Fibrosis
- Smooth Muscle
- Concentrated Protein / Blood

### T2 Hypointensity: DDX

- Exophytic Leiomyoma
- Endometrioma
- Fibroma / Fibrothecoma
- Brenner Tumor

### Exophytic Leiomyoma

- Separate Ipsilateral Ovary
- Bridging Vessel Sign

### Fibroma-Fibrothecoma

- 50% of Sex Cord – Stromal Tumors
- > 95% Benign
- Fibrothecoma: Endometrial Hyperplasia in Postmenopausal Woman
- Large Fibroma: Meig's Syndrome

### Brenner Tumor

- < 1% Epithelial Ovarian Neoplasms
- >98% Benign
- Ovarian Transitional Cells Surrounds by Fibrosis
- 30% Ipsilateral or Contralateral Benign Ovarian Tumor

### **Brenner Tumor**

- < 1% Epithelial Ovarian Neoplasms
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### **Tubular Configuration**

- Radiography: One View is No View
- MR: One Plane is No Plane
- Tube Revealed on 1 of the 3 Orthogonal Planes

### **Dilated Fallopian Tube**

- Endometriosis
  - ↑ T1 SI Content
  - Other Findings of Endometriosis
- Pelvic Inflammatory Disease
- Prior Hysterectomy

### **Papillary Projections**

- Specific for Epithelial Ovarian Neoplasm
- Not Specific for Malignancy
- T2 Zonal Anatomy
  - Inner ↓ SI Fibrous Core
  - Outer ↑ SI Edematous Stroma

### **Mucinous Cystadenoma**

- The Largest of Adnexal Neoplasms
- Large Size ≠ Malignancy
- MR Imaging Features
  - Multiple Locules
  - No Ascites, Papillary Projections
  - Minimal T1 and T2 Shortening from Viscous Mucin

### **Peritoneal Implants**

- Specific\* (< 100%) for Malignancy
- In Setting of Ovarian Mass
  - Refer to Gyn Oncologist
  - Neoadjuvant Chemotherapy

\*Radiographics 2005;25:1689-93. Best Cases from the AFIP: Borderline Papillary Serous Tumor of the Right Ovary.  
<http://radiographics.rsnajnl.org/cgi/content/full/25/6/1689>

### **Pitfall: Lipid Poor Teratoma**

- < 5 % of Mature Cystic Teratoma
- In Phase and Opposed Phase Chemical Shift Imaging
- Specific Gravity

### **Pitfall: Peritoneal Inclusion Cyst**

- Non-Pancreatic Pseudocyst
- Loculated Peritoneal Fluid Surrounds One or Both Ovaries
- Borders: Pelvic Peritoneal Cavity
- Not a Cystic Ovarian Neoplasm

### **Peritoneal Inclusion Cyst: Clinical Features**

- Premenopausal Women
- Prior Surgery, Endometriosis
- Mesothelial Lining Cells Lose Ability to Absorb Fluid
- Rx: Aspirate, Sclerosing Agents

### **Pitfall: Tarlov Cyst**

- Mimic Ovarian Neoplasm
- Solution: Establish Sacral Origin

**Thank you for your Attention!**

